

## Remarks

### Claim Rejections – 35 USC 102

1. Claims 1, 4 to 7, 9 to 15, 19 and 21 have been rejected under 35 USC 102(b) as being anticipated by Wilkerson (US4590932).

2. Wilkerson '932 describes a boot assembly having a pad 12 of self-supporting thermoplastic foam material (col. 3, ll. 13-15) that is compressible (col. 5, l. 44; col. 6, l. 47). The foam material is such that, after it has been briefly warmed in an oven, when it is applied to a person's ankle, it sets to conform to the shape of the ankle and foot (col. 3, ll. 27-31). The pad 12 is U-shaped, i.e. bifurcated by an upwardly-open slot, with two legs 13,14, which are arranged so that, once the pad 12 has been applied about the ankle, the legs are substantially parallel (col. 3, ll. 15-24, and Figures 3, 4 & 7). In use, the pad 12 is held on the person's ankle by a wrap-around boot 17.

3. A first point of distinction of Claim 1 over Wilkerson '932 is that the claim is directed to a "shell". In the office action, the examiner has not noted any distinction between the "shell" of the claim and the "pad" of Wilkerson '932. However, the applicant submits that the term "shell" in the claim implies something which is hard. By contrast, the term "pad" used in Wilkerson '932 implies something which is soft.

4. A second point of distinction of Claim 1 over Wilkerson '932 is that the shell of the claim is defined as being "semi-rigid." The examiner has commented that "semi-rigid" is a relative term. The applicant submits that the terms "semi-rigid" and "semi-rigid shell" are established terms in the art of ankle braces having distinct meaning. Indeed, a definition of "semi-rigid" is given in other US patents to Wilkerson, for example US5902259 (Wilkerson) states at col. 3, ll. 37-42:

*The shells are preferably semi-rigid, by which is meant that they are stiff enough so that the foot shell, for example, does not significantly lose its foot-contoured shape under normal maximum adult weight, but are flexible enough to be depressed to exert extra localized pressure against the ankle behind a tightly fitted strap.*

A similar definition is given in given in US5445603 (Wilkerson) at col. 3, ll. 27-32.

A consistent definition is given in WO02/051343 (Moore), which states at page 4, ll. 12-17:

*In the context of this specification, the term "substantially rigid" is not intended to imply that the shell is completely rigid. As is known in the art, the shell may have some degree of*

*flexibility (sometimes described in the art as "semi-rigid"), but it is sufficiently rigid to provide support for the treatment area of the ankle and ligaments. The degree of flexibility that is provided may be chosen in dependence upon circumstances. For example, a shell that is to be used while playing sports may be provided with a greater degree of flexibility.*

Other uses of this term occur, for example, in:

US2006/276736 (Devreese) "semi-rigid shell" para. 0006.

US2006/173393 (Sailhen) "semi-rigid lateral shells" para. 0021.

US2006/084899 (Verkade) "semi-rigid shell" para. 0031.

US6793640 (Avon) "semi-rigid support" para. 0018.

US2003/204157 (Cropper) "semi-rigid support member" para. 0010.

US6602215 (Richie) "the support stirrup is a semi-rigid member" para. 0020.

US2003/014001 (Martin) "semi-rigid polypropylene" . 0015, 0020

WO02/065942 (Hsiao-Wecksler) "semi-rigid shell" pg. 5, ll. 18-25.

US2002/029009 (Bowman) "semi-rigid plastic shells" para. 0011.

US6053884 (Peters) "semi-rigid stirrup" col. 1, ll. 19-20.

All of these instances of the term "semi-rigid" are consistent with the applicant's submission that the term "semi-rigid" has a distinct meaning in this particular art, and that the compressible foam pad of Wilkerson '932 does not constitute a semi-rigid shell as defined in applicant's claim 1.

5. A third point of distinction of claim 1 over Wilkerson '932 is that claim 1 defines the shell as having a portion shaped to register the shell with respect to the person's ankle bone. It now appears to the applicant that the word "register" may not have as clear a meaning in this context in American-English as it does in British-English, the language in which the specification is written. Claim 1 has therefore now been clarified to state "the shell having a registration portion shaped to register the shell in the directions of the four extents with respect to the person's ankle bone. As will be appreciated from inspection of Figure 3 of Wilkerson '932, the pad 12 is devoid of any portion to prevent the pad 12 moving downwards so that the ankle bone 11 is no longer disposed at the bottom of the channel in the pad 12. By contrast, and by way of example, the drawings of the present application show that the holes 24,28 in the shells 12,14 extend to some extent around the top of the ankle bone. Accordingly, as explained at page 6, ll. 23-28, and page 7, ll. 2-7, of the description, the holes 24,28 can register the shells 12,14, both horizontally and vertically, with respect to the protruding parts of the persons body covering the ends of the ankle bone.

6. In view of these three points of distinction of claim 1 over Wilkerson '932 discussed in paragraphs 3 to 5 above, applicant submits that claim 1 is not anticipated by Wilkerson '932.

7. Claims 4 to 7, 9 to 15 and 19 are all directly or indirectly dependent on claim 1 and are therefore distinguished from Wilkerson '932 at least by the three points of distinction discussed in paragraphs 3 to 5 above.

8. Furthermore, claim 6 is limited to the additional features that the registration portion is provided by a hole and that the slot stops short of the hole. Wilkerson '932 does not show a distinct hole. Nevertheless, if one takes the lower portion of the channel in the pad of Wilkerson '932 to be a hole, and if one takes the portion of the channel above the hole to be the slot, then the slot does not stop short of the hole. Instead, it joins the hole.

9. Moreover, claim 7 and its dependent claims 9 and 10 are limited to the additional feature of claim 7 that the registration portion is provided by a recess in the inner surface of the shell for receiving the protruding part of the ankle bone. Claim 7 has furthermore now been clarified to state that the recess is for covering the protruding part of the ankle bone. Wilkerson '932 fails to disclose such a recess, and the pad 12 of Wilkerson '932 fails to cover the protruding part of the ankle bone.

10. Furthermore, claim 11 is limited to the additional feature that the registration portion has a non-circular outline. The examiner has suggested that Figures 1, 3 and 4 of Wilkerson '932 show this feature. Applicant points out that the lower end of the channel in the pad 12 of Wilkerson '932 does not constitute a registration portion as defined in claim 1. However, even if it were taken to do so, in the relaxed state of Figure 1 of Wilkerson '932, the lower end of the channel has a part-circular outline, slightly greater than a semi-circle, and in the as-fitted state of Figures 3 and 4, it has a semi-circular outline. Applicant therefore submits that these outlines are therefore not non-circular.

11. Claim 21 is an independent claim. Nevertheless, claim 21 is limited to the features of the shell, the semi-rigidity of the shell and the registration portion discussed above in paragraphs 3 to 5 in connection with claim 1. Applicant therefore submits that claim 21 is not anticipated by Wilkerson '932.

12. Claims 17 and 18 have been rejected under 35 USC 102(b) as being anticipated by Reithofer (US5527269).

13. Although claim 17 is not written as a dependent claim, it defines two shells as claimed in claim 1, one being a medial shell and the other being a lateral shell. Claim 17 has now been amended similarly to claim 1 as described in paragraph 5 above.

14. A first point of distinction of claim 17 over Reithofer is that claim 17 defines the shell as having a portion shaped to register the shell in the directions of the four extents with respect to the person's ankle bone. The shells 1,2 of Reithofer are shown as having openings 9,10, which are described at column 3, ll. 22, 49 and 50 as being "in the malleolar area" and in claim 1 as being "for receiving protruding portions in the malleolar area of the foot." As will be appreciated from inspection of the drawings of Reithofer, the holes 9,10 are of substantial size, and applicant submits that there is no disclosure or suggestion in Reithofer that the holes 9,10 are effective to register the shells 1,2 in the directions of their four extents with respect to the person's ankle bone. Applicant submits that the holes 9,10 are provided in Reithofer merely to prevent the shells 1,2 applying any pressure to the malleolar area, without any consideration to them providing any registration function.

15. A second point of distinction of claim 17 over Reithofer is that claim 17 defines each shell as being bifurcated by a respective slot extending from the respective upper extent towards the respective registration portion. The examiner has suggested that Reithofer discloses this feature, but applicant is at a loss to understand why. Reithofer does not disclose a slot extending from the upper extent of either shell. Reithofer does not disclose any bifurcation of either shell. The term "bifurcated" used in claim 17 implies that the slot divides the shell so as to resemble a two-pronged fork. Applicant submits that this is not disclosed nor suggested by Reithofer.

16. In view of these two points of distinction of claim 17 over Reithofer discussed in paragraphs 14 and 15 above, applicant submits that claim 17 is not anticipated by Reithofer.

17. Claim 18 is dependent on claim 17 and is therefore distinguished from Reithofer at least by the two points of distinction discussed in paragraphs 14 and 15 above.

### **Claim Rejections – 35 USC 103**

18. Claims 2-3, 16 and 22 have been rejected under 35 USC 103(a) as obvious over Wilkerson '932.

19. Claims 2-3 and 16 are directly or indirectly dependent on claim 1 and are therefore distinguished from Wilkerson '932 at least by the three points of distinction discussed in paragraphs 3 to 5 above.

20. Claim 22 is dependent on claim 21 and is therefore distinguished from Wilkerson '932 at least for the reasons discussed in paragraph 11 above.

### **International Search Report**

21. This application is the US national phase of an International application. Wilkerson '932 was listed in the International search report. Applicant respectfully points out that Wilkerson '932 was placed in category "A" by the International Searching Authority in respect of all claims of the application, meaning that Wilkerson '932 is a document defining the general state of the art which is not considered to be of particular relevance to any of the claims.

### **Lack of Antecedent Basis**

22. Claims 1 and 17 have been amended to provide proper antecedent basis for the term "registration portion".

### **Summary**

Having dealt with all of the objections and rejections raised in the first office action, applicant respectfully requests favourable reconsideration of this application which is now considered to be in order for allowance.

Respectfully submitted

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